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**NATIONAL WEATHER
SERVICE**
Engineering Handbook

<i>Program</i>	<i>Part</i>	<i>Section</i>
EHB-1	0	0

INSTRUMENTAL EQUIPMENT CATALOG

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LISTING OF ACRONYMS

ASN	- Agency Stock Number
CBL	- Commercial Bill of Lading
CLS	- Consolidated Logistics System
EHB	- Engineering Handbook
EMRS	- Engineering Management Reporting System
FSC	- Federal Supply Class
GBL	- Government Bill of Lading
LRU	- Line Replaceable Unit
NATO	- North Atlantic Treaty Organization
NLSC	- National Logistics Support Center
NOAA	- National Oceanic and Atmospheric Administration
NRC	- National Reconditioning Center
NSN	- National Stock Number
NWS	- National Weather Service
NWSH	- National Weather Service Headquarters
SM&R	- Source, Maintenance, and Recoverability
WS	- Weather Service

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1. INTRODUCTION

1.1 Purpose. The purpose of the *Instrumental Equipment Catalog, Engineering Handbook-1 (EHB-1)* is to provide a consolidated database of National Weather Service (NWS) technical stock items, including instrumental equipment, supplies, accessories, spare parts, repair parts, NWS publications and NWS forms. The items cataloged in this handbook are those in operational systems and those deemed advisable to include. Not included in this catalog are equipment of an experimental nature and specialized items serving short term or limited applications. This catalog is to assist NWS personnel, and others designated to receive NWS material support, in identifying and requisitioning items required to perform their tasks.

1.2 Format. The catalog portion of this handbook is separated into two parts or volumes. Part 1 consists of Sections A-P and Part 2 consists of Sections R-Y (and Section O - Miscellaneous). An index which lists primary items of equipment or whole units precedes each section. A section is comprised of a group of items, arranged in alphanumeric order, that serve the same primary purpose or fit the classification pattern established by the section title (i.e., equipment that is used primarily for measuring surface wind is found under Section F - Surface Wind, with cross references to accessories or allied items listed in other sections).

1.3 Trade or Brand Names. References in the catalog to trade or brand names are made solely to describe the general type of article and are not intended to be restrictive to any particular make or brand. Replenishment, in most cases, is accomplished competitively, so the manufacturer of a specific item may vary.

1.4 Changes and Revisions. Changes to the catalog are accomplished by a monthly distribution of accumulative changes, sections, or even the whole catalog. These changes are to be inserted, upon receipt, in their proper place and any replaced pages discarded.

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2. FIELD CONTENTS. The database fields of the catalog listing are as follows:

2.1 ASN (Agency Stock Number). The Agency Stock Number (ASN) is a unique number assigned by NWS to identify equipment, components, supplies, publications, etc.

2.2 Description. This is a detailed description of the equipment or item including model number and manufacturer's part number, if available. A ** in front of the description indicates a piece of equipment which is for reference only and is not maintained as a stock item.

2.3 SM&R Code (Source, Maintenance, and Recoverability Code). Source, Maintenance, and Recoverability (SM&R) codes are used to communicate maintenance and supply instructions to the various logistic support levels. These codes are assigned to each support item based on the logistics support planning for the end item and its parts. This planning is a part of the provisioning process.

The SM&R code is a five position entry in the catalog database consisting of a two digit Source Code, a two digit Maintenance Code, and a one digit Recoverability/Condemnation Code. Only one Source Code and Recoverability Code is assigned for each support item, however, the Maintenance Code assigned to a specific support item may vary depending on the particular application and varying maintenance policies.

Figure 2.1 shows an overview of SM&R Code positions and the purposes of each code.

CODE	SOURCE		MAINTENANCE		RECOVERABILITY/ CONDEMNATION
			REMOVE & REPLACE	REPAIR	
POSITION	1	2	3	4	5
PURPOSE	Source or type of item.		Lowest level authorized (having the capability) to remove and replace the item.	If the item is to be repaired, the lowest maintenance level with all the capability to complete some or all repair.	Lowest maintenance level authorized to condemn and dispose of an item. In the case of repairable items, this may also indicate the lowest maintenance level with full repair capability.

Figure 2.1 UNIFORM SM&R FORMAT

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The following SM&R codes are applicable to NWS equipment:

Source Codes (Positions 1 & 2)

- PA -** Item procured and stocked for anticipated or known usage that is not deteriorative in nature.
- PB -** Item procured and stocked for insurance purposes only.
- PC -** Item procured and stocked and which otherwise would be coded PA, except that it is deteriorative in nature.
- PD -** Support item, excluding support equipment, procured for initial issue or outfitting and stocked only for subsequent or additional initial issues or outfittings. Not subject to automatic replenishment.
- PE -** Support equipment procured and stocked for initial issue or outfitting to specified maintenance repair activities.
- XA -** Item is not procured or stocked because the requirements for the item will result in the replacement of the next higher assembly.
- XB -** Item is not procured or stocked.

Maintenance Codes (Positions 3 & 4)

Remove and Replace (Position 3)

- O -** Organizational Level (Field Office)
- D -** Depot Level (National Reconditioning Center)

Repair (Position 4)

- O -** Organizational Level (Field Office)
- D -** Depot Level (National Reconditioning Center)
- L -** Specialized Repair Activity (As Designated)
- Z -** Non-Repairable. No repair to the item is authorized.

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Recoverability/Condemnation Codes (Position 5)

- O** - Repairable item. When uneconomically repairable, condemn and dispose of at the organizational level.
- D** - Repairable item. Repair, condemnation, and disposal are authorized only at the depot level.
- L** - Repairable item. Repair, condemnation and disposal not authorized below depot/Specialized Repair Activity level.
- Z** - Nonrepairable item. When unserviceable, condemn and dispose at the level indicated in the first position of the maintenance code.

2.4 AUTH CODE (Authorization Code). The authorization code for each item in EHB-1 identifies the level of authorization required to requisition an item. The authorization code has one of three values: N, T, or A.

- N** - This item requires no authorization to be requisitioned other than financial approvals which may be required by regional policy.
- T** - Authorization to requisition this item is required at the program level. The authorizations are based on systems level authorizations by organization code contained in the Consolidated Logistics System Table of Authorizations.
- A** - Authorization to requisition this item is required from the Headquarters Project Manager.

2.5 NSN (National Stock Number). The National Stock Number (NSN) is a unique identifier assigned to each stock item. It is normally a federally assigned number comprised of a Federal Supply Class (FSC), North Atlantic Treaty Organization (NATO) code, and a sequential number cataloged in the Federal Supply Cataloging System.

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3. REQUISITIONING PROCEDURES. This section details procedures for requisitioning NWS supply materials (e.g., resupply of consumable items; parts for maintenance; equipment for approved system expansion, modification, or replacement; forms; publications; or other requirements) from the National Logistics Support Center (NLSC).

3.1 Customer Record. In order to requisition from the NLSC, a customer record must exist, in the Consolidated Logistics System (CLS), for the site. If no customer record exists, contact the National Weather Service Headquarters (NWSH), Engineering Division, Logistics Management Section (W/OSO322).

3.2 Stock Number Identification. To determine the stock number of an item use either this catalog or the CLS.

3.2.1 Instrumental Equipment Catalog, Engineering Handbook-1 (EHB-1). If there is any doubt about the exact identification of an item, start by checking EHB-1. Finding the needed item in EHB-1 according to its ASN or NSN, is the initial step in a decision path illustrated in Figure 3.1 (NWS Requisitioning Flow Chart). If the item is in EHB-1, the NWS supply system is the required first source of supply. Not included in this catalog are equipment of an experimental nature and specialized items serving short term or limited applications.

3.2.2 Consolidated Logistics System (CLS). Another place to obtain stock number information is through the CLS. CLS provides real-time access to information and the requisitioning of stock from the NLSC. It was designed to modernize the receipt, distribution, and management of the inventory at the NLSC. (See Section 3.3.3).

3.3 Requisitions. Figure 3.1 illustrates the flow of NWS requisitions. Requisitions are placed through the CLS, by phone, or by mail. The priority of a requisition must be determined prior to issuing the requisition and is either routine or emergency.

3.3.1 Emergency Requisitions. Emergency orders should be reserved for instances when the system involved is critically degraded, no field spares are available, and the system is needed to be fully operational prior to the 7-10 day period usually required to receive a routine order. Follow regional guidelines to determine if the need for an item constitutes an emergency.

It is recommended that emergency requisitions be submitted via the CLS, however, they may also be submitted via telephone. Emergency requisitions should state any special delivery instructions, such as naming a preferred carrier, "after hours" telephone contact numbers, or building access procedures. The telephone contact number must be a number that is answered by station personnel at all hours. It is the responsibility of the requisitioner to ensure that arrangements have been made at the site to receive the emergency order should it arrive after hours, on a weekend, or on a holiday.

During regular working hours, the requisitioner normally will be informed immediately

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whether or not the part is available. For “after hours” phone orders, the site (or alternate contact point) should be notified within two hours concerning the availability and means of shipment for the item. Emergency orders are shipped by overnight air carriers and should arrive within 30 hours of ordering.

3.3.2 Routine Requisitions. Most requisitions are routine priority. These items are required for periodic replenishment of station supplies or replacement of defective items which are not critically degrading the performance of primary equipment. It is strongly recommended that routine requisitions be submitted via the CLS, however, if necessary, they may also be submitted via telephone or mail. Routine orders will be shipped by the next business day.

3.3.3 CLS Requisitions. The CLS is the preferred method for routine or emergency requisitioning of material from the NLSC. The *CLS Users Manual* provides procedures for on-line computer requisitioning and may be obtained from the NLSC. The ASN for the *CLS Users Manual* is XMAN-AL-CLS-AR/F.

3.3.4 Mail Requisitions. Although requisitions via CLS are preferred, routine requisitions may be submitted via mail using National Oceanic and Atmospheric Administration (NOAA) Form 37-4, *Stores Requisition*. Include a contact person’s name and phone number in the “Name of Office” block. If special instructions such as transportation mode apply, ensure that they are clearly written on the form. After checking the accuracy of the stock numbers and station information, the form should be sent to NLSC via the routing designated by the region. The NLSC address is:

U.S. Department of Commerce
National Logistics Support Center
1510 East Bannister Road
Building 1
Kansas City, MO 64131-3009
Attn: Warehouse Order Dept.

3.3.5 Telephone Requisitions. Once again, CLS is the preferred method of requisitioning material. Routine telephone requisitions are accepted by NLSC during normal working hours (7:00 am - 4:30 pm (Central Time), Monday through Friday, excluding holidays). Emergency telephone requisitions are accepted 24 hours per day.

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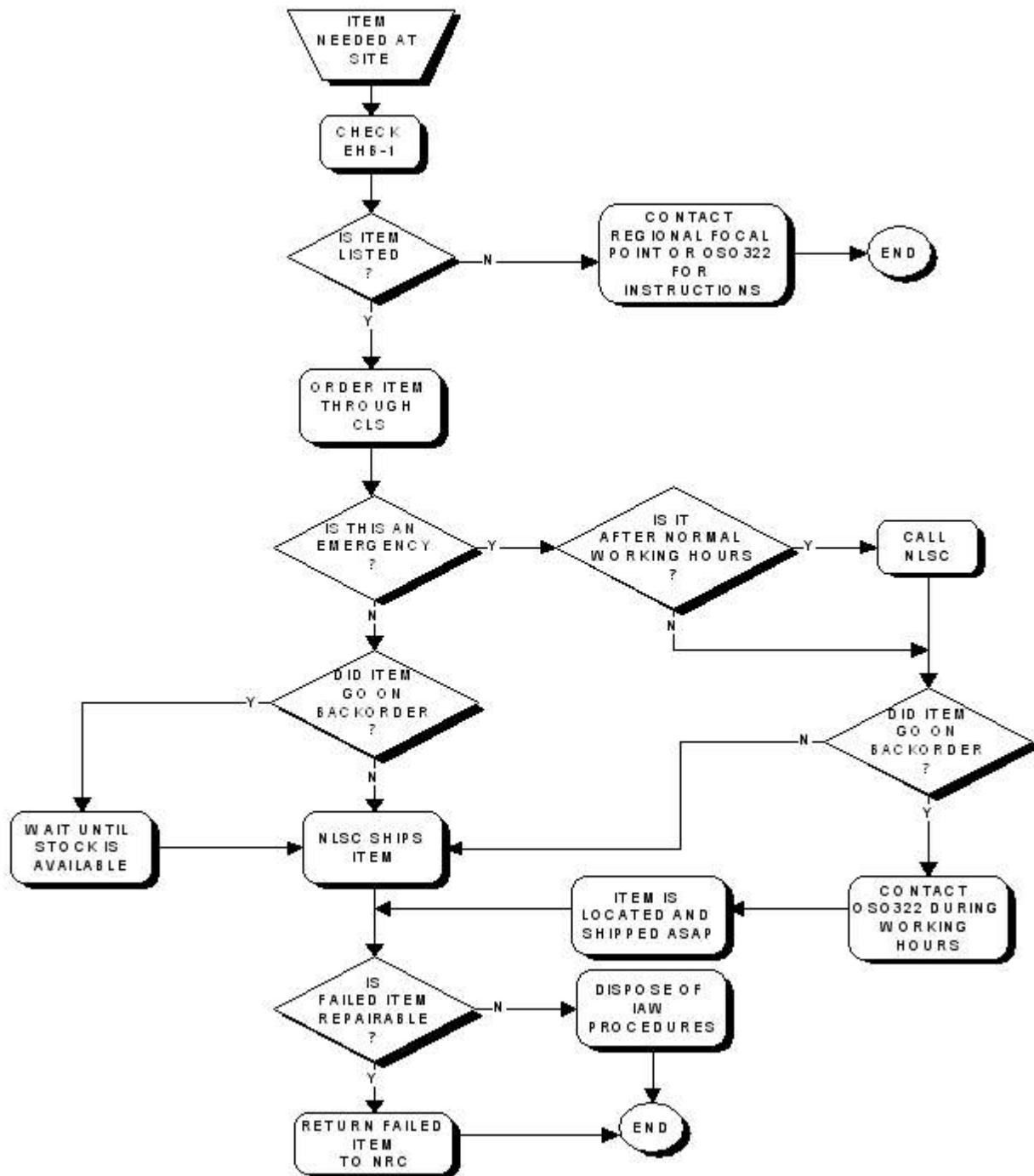


Figure 3.1 NWS Requisitioning Flow Chart

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3.3.6 Required Requisitioning Information. The following information must be provided for each requisition:

- a. Type of Requisition : Routine or Emergency
- b. Ship to Organization Code or Site ID: This information must be correct or the automatic addressing for the requisition shipping labels will be wrong.
- c. Bill To Organization Code or Site ID: Must provide if different from the Ship To Organization.
- d. Bill To Task Code: Must provide a valid NOAA Task Code for the Bill To Organization for billing (Example: 8M1J10). An optional two character phase code may be added to the end of the task code.
- e. NSN or ASN: National Stock Number (NSN) or Agency Stock Number (ASN) including prefix.
- f. Quantity: Enter quantity required. Quantity for repairable items must be equal to "one", since repairables may only be requisitioned one at a time.
- g. Special Instructions: As Applicable
- h. Equipment Code: (Required for repairable items only) Valid Equipment Code for the failed item. (Reference *Engineering Management Reporting System (EMRS) (EHB-4)*, Appendix C)
Serial Number of the failed item, if applicable.
- i. Serial Number: This number must be the EMRS Failure Report Number from block 10 of Weather Service (WS) Form H-14, *Equipment Return Tag*, which will be physically attached to the failed repairable being returned to the NRC. If the item ordered is not associated with a failure, order through NWSH.
- j. Failure Document Number: (Required for repairable items only)

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When requisitioning an authorization code "A" item, specify how soon the material will be needed. If test equipment or other accountable items are needed, supply the serial number of the defective unit which will be sent to the National Reconditioning Center (NRC) (W/OSO33) for repair.

3.4 Cancellation of Requisitions. An item may be canceled, if it has not been allocated for shipment. If it is already allocated, call NLSC and they will cancel it. Some examples are:

Situation: A part was ordered for emergency handling and NLSC reported back as out-of-stock. Arrangements were made to borrow the part from another site's spare kit.

Action Required: Cancel the emergency requisition and enter a new routine requisition citing the other site as the "Ship to Organization Code".

Situation: A failure occurred and could not be isolated. A whole unit or several Line Replaceable Units (LRUs) were ordered to correct the failure, but the failure has been cleared before the parts arrive.

Action required: Attempt to cancel the order. If the order has already been shipped, return the unused parts in accordance with Section 3.7.

3.5 Funding. The "Bill to Organization Code" is charged for all requisitioned items and applicable shipping costs. An order is not charged against a site until it is filled. Credit for failed repairable items will be given only after the repaired item is received by NLSC. Discrepancies in charges or credits should be reported to the NWSH, Engineering Division, Logistics Management Section, (W/OSO322). Initial spares required by field sites as a result of major modification programs, as well as initial spares required at field sites as a result of new systems introductions, are provided as free issue seed stock to field sites and are procured using program funding.

3.6 Status of Requisitions. The status of requisitions is available through the CLS. The destination site should receive the items ordered within 10 days of sending the requisition. If the items are not received, the regional focal point, or the NWS on-site representative at the NLSC may be contacted to determine the requisition status.

The status of an emergency order can be checked by calling the NLSC directly. If there are any problems with the order (e.g., it was the wrong part or broken upon arrival), call the NWS on-site representative at NLSC. Status of stock items which are back ordered due to stock outage will be provided by NLSC via telephone to the requisitioner if the stock is ordered as an emergency.

3.7 Return of Items. Items should be returned to NRC for the following reasons:

- The item is a repairable part or an entire unit which has failed. Repairables include all catalog items whose SM&R code (see Section 2.3) ends in "LD" or

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“DD”, as well as test equipment and other whole units. The packing list shipped with every requisition will state if a defective item is expected to be returned.

- An incorrect or defective item was received.
- You are instructed to return an item by NWSH.

Return items to NRC, at the following address, within 10 days of receipt of a replacement item or a turn-in request:

NOAA-NATIONAL WEATHER SERVICE
National Reconditioning Center
1520 East Bannister Road
Kansas City, MO 64131

Ship all small items (less than 70 lbs. and less than 108 inches in length, width, and girth) via the U.S. Postal Service, using proper packing. Do not use Return Receipt Requested. If an item is too large to mail, it should be returned to NRC via surface common carrier (i.e., truck lines) within the continental U.S., unless specifically requested to be sent via air freight by the region. Items should not be sent back “collect”.

If the return shipping will cost \$100.00 or less, fill out a Form CD-397, *Commercial Bill of Lading* (CBL), and give it to the carrier (minus the sender's copy). If the return shipping cost will exceed \$100.00, the field office must request a *Government Bill of Lading* (GBL) from its servicing Administrative Support Center via NOAA Form 42-15, *Bill of Lading Request*. All returns to NRC should be accompanied by a WS Form H-14 (follow instructions in EHB-4). When shipping test equipment or other accountable stock items equipment to NRC, ensure that it is clearly marked with the ASN and NSN; and include a copy of NOAA Form 37-21, *Personal Property Management Record* and any leads, probes, manuals, or other accessories in the shipping container.

3.8 Repairable Overdue Reports. Repairable due-in reports are furnished to the regions monthly. The purpose of these reports is to monitor and encourage the return of defective items whose repair saves the NWS significant sums of money and equipment downtime.

3.9 Local Procurement. If material is not available from the above sources and is available locally, follow regional guidelines for procurement. The region will also offer advice if the source of required material is not known to field personnel.

3.10 Aerological Supplies. Certain items for the upper air observations program are handled differently from the procedures detailed above. Specifically, standard radiosondes are shipped directly from manufacturers to the upper air sites. This arrangement is overseen

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by the upper air program manager at NWSH, Observing Systems Branch (W/OSO14). Shortages of these items which may result in curtailment of observations should be reported to the program manager through the region so corrective action can be taken. Other aerological items, such as balloons, lighting units, and parachutes, are requisitioned directly from NLSC.

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4. POINTS OF CONTACT.

LOCATION	CODE	AREA OF RESPONSIBILITY	PHONE NO.
NWSH	W/OSO322	Logistics Management	(301) 713-1830
NLSC	CCX2	Warehouse Operations (24-Hours)	(816) 926-7993
	W/OSO322	NWS Representative/Liaison	(816) 926-1820
NRC	W/OSO33	Repair Operations	(816) 926-3217

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5. INSTRUMENTAL EQUIPMENT CATALOG ITEM LISTINGS. This section contains listings of ASNs, item descriptions, SM&R codes, authorization codes, and NSNs for the following equipment and supplies:

PART 1

- A** - Radiation
- B** - Communication
- C** - Temperature
- D** - Hydrologic Equipment
- F** - Surface Wind
- G** - Atmospheric pressure
- H** - Water Vapor
- J** - Aerological Soundings
- K** - Cloud Measurement
- M** - Computer Based Systems
- P** - Display and Accessory Equipment

PART 2

- R** - Weather Search Radar
- S** - Automatic Weather Observing System
- T** - Technical Test Equipment
- V** - Satellite Communications
- O** - Miscellaneous
- X** - Publications
- Y** - Forms